

KARAKTERISTIK FISIKO-KIMIA SABUN SUSU SAPI DENGAN PENAMBAHAN MADU DIBANDING *WHEY* PADA LAMA PEMATANGAN BERBEDA

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INTISARI

Penelitian ini bertujuan untuk mengetahui perbandingan karakteristik fisiko-kimia sabun susu sapi dengan penambahan madu atau *whey* pada lama pematangan berbeda. Pembuatan sabun dilakukan dengan metode dingin menggunakan bahan berupa NaOH, susu sapi, minyak kelapa, minyak goreng sawit, dan minyak bunga matahari, serta bahan tambahan berupa madu atau *whey* dengan lama pematangan 0, 30, dan 60 hari. Pengujian meliputi uji bahan baku susu segar, dilanjutkan pengujian fisik sabun yang terdiri dari uji kekerasan, stabilitas busa, dan uji pH, serta uji kimia sabun yang terdiri dari uji bilangan peroksida dan uji bilangan penyabunan. Analisis dilakukan dengan SPSS versi 25 pada Rancangan Pola Faktorial 3x3 (macam penambahan {kontrol, penambahan madu, dan penambahan *whey*) x lama pematangan(hari ke-0, 30, dan 60)}. Hasil pengujian nilai pH susu segar, madu, dan *whey* secara berturut-turut 6,80; 4,56; dan 5,60. Hasil uji statistik menunjukkan bahwa lama pematangan kedua bahan tambahan berpengaruh sangat nyata ($P < 0,01$) terhadap karakteristik fisiko-kimia sabun. Serta diketahui bahwa terdapat interaksi yang sangat signifikan ($P < 0,01$) antara lama pematangan kedua bahan tambahan pada uji kekerasan dan uji pH. Hasil pengujian menunjukkan bahwa sabun dengan penambahan madu memiliki karakteristik yang lebih baik dari sabun dengan penambahan *whey*, serta semakin lama pematangan, karakteristik fisiko-kimia sabun semakin baik, kecuali pada uji bilangan peroksida, dimana angka peroksida semakin lama semakin tinggi.

Kata kunci: Sabun susu sapi, fisiko-kimia, susu sapi, madu, *whey*, lama pematangan.

PHYSICO-CHEMICAL CHARACTERISTICS OF COW'S MILK SOAP WITH THE ADDITION OF HONEY VERSUS WHEY AT DIFFERENT CURING TIMES

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ABSTRACT

This study aims to determine the comparison of the physico-chemical characteristics of cow's milk soap with the addition of honey or whey at different curing times. Soap making is done by the cold method using ingredients such as NaOH, cow's milk, coconut oil, palm cooking oil, and sunflower oil, as well as additional ingredients of honey or whey with curing times (0, 30, and 60 days). Testing includes testing fresh milk raw materials, followed by physical testing of soap consisting of hardness, foam stability, and pH, as well as chemical tests of soap consisting of peroxide number and saponification number. The analysis was carried out using SPSS version 25 in a 3x3 Factorial Pattern Design {type of addition (control, honey addition, and whey addition) x curing time (days 0, 30, and 60)}. The results of the pH value test of fresh milk, honey, and whey were 6.80; 4.56; and 5.60. The results of statistical tests showed that the pematangantime and both additional ingredients had a very significant effect ($P < 0.01$) on the physico-chemical characteristics of soap. It is also known that there is a very significant interaction ($P < 0.01$) between the curing time and both additional ingredients in the hardness test and pH test. The test results showed that soap with the addition of honey has better characteristics than soap with the addition of whey, and the longer the curing, the better the physico-chemical characteristics of the soap, except for the peroxide number test, where the peroxide number is getting higher.

Keywords: Cow's milk soap, physico-chemical, honey, whey, curing time.